

**MATERIAL SAFETY DATA SHEET**

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe and European Community Standards

PART I What is the material and what do I need to know in an emergency?**1. PRODUCT IDENTIFICATION**

TRADE NAME (AS LABELED): OpenGene™ System Control
U.N. NUMBER: None Allocated
U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK: None Allocated
HAZCHEM CODE (AUSTRALIA): None Allocated
POISONS SCHEDULE NUMBER (AUSTRALIA): None Allocated
PRODUCT CODE: VG 39201
SUPPLIER/MANUFACTURER'S NAME: Visible Genetics Inc.
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01-703-527-3887 (International Collect) [Chemtrec]
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DATE OF PREPARATION: August 12, 2002, VG39201-020812MSDS

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ADDRESS:
BUSINESS PHONE:
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FAX NUMBER:

2. COMPOSITION and INFORMATION ON INGREDIENTS

This Material Safety Data Sheet provides complete information on all the components described in the following tables. Unless otherwise specified, the information in each of the following sections (Sections 3–16) of this document is pertinent to each solution.

CHEMICAL NAME	CAS #	% v/v	EXPOSURE LIMITS IN AIR						
			ACGIH-TLV		OSHA-PEL		NIOSH IDLH mg/m ³	OTHER mg/m ³	
			TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³			
Ficoll									
COMPONENTS 1-4: Cy5.5 A + Cy5.5 T, Cy5.5 T + Cy5 A, Cy5.5 C + Cy5 G, Cy5.5 G + Cy5 C									
α-D-Glucopyranoside, β-D-Fructofuranosyl, Polymer with (Chloromethyl)oxirane	26873-85-8	< 1.5	NE	NE	NE	NE	NE	NE	
Formamide	75-12-7	40-50	18 (skin)	NE	30 (Vacated 1989 PEL)	45 (Vacated 1989 PEL)	NE	NIOSH REL: TWA = 15 (skin) DFG MAK: Skin	
Water and other constituents. Each of the other constituents is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	None of the other constituents in this mixture contribute significantly to the hazards associated with this component. All pertinent hazard information has been provided in this Material Safety Data Sheet, per the requirements of the U.S. Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian Workplace Hazardous Materials Identification System Standards (CPR 4) and European Community Standards (Commission Directive 93/112/EEC), and applicable Australian regulations [NOHSC: 1005(1994)].						

NE = Not Established. See Section 16 for Definitions of Terms Used.

NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EC Directives and WorkPlace Australia. NOTE (2): Unless otherwise indicated, the hazard assessments in the following sections are pertinent to all component reagents.

EXHIBIT B

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

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Searching 1996-2002...

Results of Search in 1996-2002 db for:

ACLM/ficoll: 80 patents.

Hits 1 through 50 out of 80

Final 30 Hits

Jump To

Refine Search ACLM/ficoll

PAT. NO.	Title
1 6,500,926	T Epstein barr virus induced genes
2 6,475,775	T PARG, a GTPase activating protein which interacts with PTPL1
3 6,465,425	T Microencapsulation and sustained release of biologically active acid-stable or free sulfhydryl-containing proteins
4 6,455,266	T Receptor for a Bacillus thuringiensis toxin
5 6,440,663	T Renal cancer associated antigens and uses therefor
6 6,437,101	T Methods for protein purification using aqueous two-phase extraction
7 6,432,629	T Self assembly of sensor membranes
8 6,429,303	T Nucleic acids encoding members of the human B lymphocyte activation antigen B7 family and methods of using the same
9 6,383,739	T Method of identifying compounds capable of activating ISL production
10 6,375,951	T Therapeutic suppression of specific immune response by administration of oligomeric forms of antigen of controlled chemistry
11 6,359,193	T Nucleotide sequences of lats genes
12 6,342,391	T Erythrocyte sedimentation rate control
13 6,340,460	T Therapeutic suppression of specific immune response by administration of oligomeric forms of antigen of controlled chemistry
14 6,331,435	T Erythrocyte sedimentation rate control
15 6,303,756	T Tumor associated nucleic acids and uses therefor
16 6,303,390	T Method for antigen and antibody determination in bloodgroup serology
17 6,297,026	T Nucleic acids encoding the C140 receptor
18 6,277,577	T Hybridization probes derived from the spacer region between the 16s and 23s RRNA

genes for the detection of non-viral microorganisms

- 19 [6,270,994](#) **T** [Smad6 and uses thereof](#)
- 20 [6,262,025](#) **T** [Nucleotide and protein sequences of vertebrate delta genes and methods based thereon](#)
- 21 [6,245,525](#) **T** [Tumor associated nucleic acids and uses therefor](#)
- 22 [6,245,523](#) **T** [Survivin, a protein that inhibits cellular apoptosis, and its modulation](#)
- 23 [6,228,391](#) **T** [Amidine derivatives and drug carriers comprising the same](#)
- 24 [6,218,150](#) **T** [DNA polymerase-related factors](#)
- 25 [6,210,889](#) **T** [Method for enrichment of fetal cells from maternal blood and use of same in determination of fetal sex and detection of chromosomal abnormalities](#)
- 26 [6,187,529](#) **T** [Method for preparing organs for transplantation after cryopreservation](#)
- 27 [6,153,412](#) **T** [Lyophilized reagent for polymerase chain reaction](#)
- 28 [6,153,217](#) **T** [Nanocochleate formulations, process of preparation and method of delivery of pharmaceutical agents](#)
- 29 [6,106,849](#) **T** [Water soluble dry foam personal care product](#)
- 30 [6,096,499](#) **T** [Mammalian DNA primase screen and activity modulating agents](#)
- 31 [6,083,721](#) **T** [Isolated nucleic acid molecules encoding PARG, a GTPase activating protein which interacts with PTPL1](#)
- 32 [6,069,299](#) **T** [Fungus and insect control with chitinolytic enzymes](#)
- 33 [6,063,582](#) **T** [Methods of screening for compounds that interact with human P.sub.2u2 purinergic receptor](#)
- 34 [6,060,233](#) **T** [Methods for the lyophilization of platelets, platelet membranes or erythrocytes](#)
- 35 [6,051,433](#) **T** [Erythrocyte sedimentation rate control](#)
- 36 [6,051,393](#) **T** [Method of detecting malignant and pre-malignant conditions of the cervix, and test kits therefor](#)
- 37 [6,040,132](#) **T** [Methods for the lyophilization of living biological materials](#)
- 38 [6,022,544](#) **T** [Therapeutic suppression of specific immune responses by administration of oligomeric forms of antigen of controlled chemistry](#)
- 39 [6,017,764](#) **T** [Erythrocyte sedimentation rate control](#)
- 40 [6,010,905](#) **T** [Method for inducing monocytes to exhibit the phenotype of activated myeloid dendritic cells](#)
- 41 [6,010,869](#) **T** [Method to collect and recover microorganisms from environmental samples](#)
- 42 [6,004,924](#) **T** [Protein sequences of serrate gene products](#)
- 43 [5,994,503](#) **T** [Nucleotide and protein sequences of lats genes and methods based thereon](#)
- 44 [5,972,600](#) **T** [Separation of active complexes](#)
- 45 [5,948,278](#) **T** [System and method for enrichment of rare cell population from whole blood samples](#)
- 46 [5,939,539](#) **T** [GA 20-oxidase gene sequences](#)
- 47 [5,939,258](#) **T** [Methods of detecting micrometastasis of prostate cancer](#)
- 48 [5,908,624](#) **T** [Antigenic modulation of cells](#)
- 49 [5,895,760](#) **T** [Erythrocyte sedimentation rate control](#)
- 50 [5,888,822](#) **T** [Erythrocyte sedimentation rate control](#)

EXHIBIT C

Hawley's
Condensed Chemical
Dictionary
Fourteenth Edition

Revised by
Richard J. Lewis, Sr.



JOHN WILEY & SONS, INC.

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10 9 8 7 6 5 4 3 2

ation, and partition.
See reflux.

fracturing, hydraulic. See hydraulic fracturing.

fragrance. An odorant used to impart a pleasant smell to shaving lotions, toothpastes, men's accessories, etc.; balsamic and piney odors are typical.

fraissite. (benzyl iodide). $C_6H_5CH_2I$.
Use: A tear gas.

Franchimont reaction. Carboxylic acid dimerization to 1,2-dicarboxylic acids by treating α -bromocarboxylic acids with potassium cyanide followed by hydrolysis and decarboxylation.

francium. Fr. Element of atomic number 87, group IA of the periodic table system, aw 223, valence of 1; it appears to exist only as radioactive isotopes. One isotope is actinium K (^{223}Fr). Other isotopes have been made artificially: ^{223}Fr is the longest-lived isotope, having a half-life of 21 minutes, and is the only natural isotope. Francium is the heaviest of the alkali-metal family.

frankincense. (olibanum). A gum resin.

Frankland-Duppa reaction. Formation of α -hydroxycarboxylic esters by reaction of dialkyl oxalates with alkyl halides in the presence of zinc, or amalgamated zinc, and acid.

Frankland synthesis. Synthesis of zinc dialkyls from alkyl halides and zinc.

franklinite. (iron, manganese, zinc).
 $(\text{FeMn})_2\text{O}_4$. Black mineral resembling magnetite.

Frary metal. A lead-based bearing metal containing 97-98% lead alloyed with 1-2% each of barium and calcium; excellent for low-pressure bearings at moderate temperatures.

Frasch process. A process by which much of the world's sulfur is obtained. Developed about 1900 by Herman Frasch, the process involves melting sulfur underground by introducing superheated water through a pipe under pressure and forcing the molten sulfur to the surface by compressed air.

Fraunhofer lines. See spectroscopy.

free electron. Electron not attached to any one atom and not restricted by potential gradients.

free energy. An exact thermodynamic quantity used to predict the maximum work obtainable from the spontaneous transformation of a given system. It also provides a criterion for the spontaneity of a transformation or reaction and predicts the greatest

extent to which the reaction can occur, i.e., its maximum yield. Transformation of a system can be brought about by either heat or mechanical work. Free energy is derived from the internal energy and entropy of a system in accordance with the laws of thermodynamics.

free radical. A molecular fragment having one or more unpaired electrons, usually short-lived and highly reactive. In formulas, a free radical is conventionally indicated by a dot, as in Cl and \cdot , $(\text{C}_2\text{H}_5)\cdot$. In spite of their transitory existence, they are capable of initiating many kinds of chemical reactions by means of a chain mechanism. Free radicals are formed only by the splitting of a molecular bond. A chain can result only if (1) radicals attack the substrate and (2) the radicals lost by this reaction are regenerated. Chain mechanisms for the thermal decomposition of many substances have been established. Free radicals are known to be formed by ionizing radiation and thus play a part in deleterious degradation effects that occur in irradiated tissue. They also act as initiators or intermediates in such basic phenomena as oxidation, combustion, photolysis, and polymerization.
See carbonium ion.

free sulfur. Sulfur that is left chemically uncombined after vulcanization of a rubber compound. When this exceeds 1%, the upper limit of solubility of sulfur in rubber, blooming will occur. Most rubber products are vulcanized with as low a sulfur content as possible so that the free sulfur content of the product is seldom over 0.5%.
See bloom; vulcanization.

freeze-drying. (lyophilization). A method of dehydration or of separating water from biological materials. The material is first frozen and then placed in a high vacuum so that the water (ice) vaporizes in the vacuum (sublimes) without melting and the nonwater components are left behind in an undamaged state.

Use: Blood plasma, certain antibiotics, vaccines, hormone preparations, food products such as coffee and vegetables. One technique prepares freeze-dried ceramic pellets from water solutions of metal salts.

"Freezene" [Crompton & Knowles]. TM for a series of refrigeration white mineral oils.
Use: Low-temperature lubrication.

freezing point. See melting point.

"Freon" [Du Pont]. TM for a series of fluorocarbon products used in refrigeration and air-conditioning equipment, as blowing agents, fire-extinguishing agents, and cleaning fluids and solvents.
Properties: Clear, water-white liquids; vapors have a mild, somewhat ethereal, odor and are not irritating; essentially stable and inert. Nonflammable, nonexp-